The caBIG Strategic Planning Strategic Level Working Group held its first face-to-face meeting November 8-9, 2004 in Philadelphia, PA. The meeting was hosted by Fox Chase Cancer Center. Bob Beck served as moderator.

Attendees, agenda, meeting discussions and outcomes follow.

Attendees:

Mark Adams, Booz Allen Hamilton
Mike Becich, University of Pittsburgh
J. Robert Beck, Fox Chase
Howard Bilofsky, University of Pennsylvania
David Birtwell, University of Pennsylvania
Jessica Bondy, University of Colorado
Ken Buetow, NCICB
John Casagrande, University of Southern California
Thomas Casavant, University of Iowa
Amin Chisti, Fox Chase
John Cook, MD Anderson
Peter Covitz, NCICB
Chalk Dawson, Booz Allen Hamilton
Mary Jo Deering, NCICB
Leslie Derr, NCICB

David Fenstermacher, University of Pennsylvania

Dan Geraghty, Fred Hutchinson
William Grizzle, University of Alabama at Birmingham
Kim Johnson, Duke University
Michael Keller, Booz Allen Hamilton
Arumani Manisundaram, Booz Allen Hamilton
Frank Manion, Fox Chase
Joyce Niland, City of Hope
Michael Ochs, Fox Chase
Bob Robbins, Fred Hutchinson
Lincoln Stein, Cold Spring Harbor
David Stivers, MD Anderson
R. Michael Townsend, Cold Spring Harbor
David Tuck, Yale University
Mark Watson, Washington University
Theodora Wills, Booz Allen Hamilton

AGENDA

Day 1: Monday, November 8, 2004		
7:15 am	Bus departs Penn's View Hotel for Fox Chase Cancer Center	
8:00 am – 8:30 am	Breakfast – Fox Chase Conference Rooms C&D	
8:30 am – 8:45 am	Welcome Anna Marie Skalka, Senior Vice President for Basic Sciences, FCCC R. Donald Leedy, Executive Vice President/Chief Operating Officer, FCCC	
8:45 am – 9:15 am	Purpose and Goals Ken Buetow, Director, NCI Bob Beck, FCCC, Meeting Moderator	
9:15 am - 10:00 am	Clinical Trials Management Systems Workspace Facilitator: Joyce Niland – City of Hope	
10:00 am -10:15 am	BREAK	
10:15 am – 11:00 am	Integrative Cancer Research Workspace Facilitator: Tom Casavant – University of Iowa	
11:00 am -11:45 pm	Tissue Bank and Pathology Tools Workspace Facilitator: William Grizzle – University of Alabama - Birmingham; Mark Watson – Washington University	
11: 45 am - 12:30 pm	Architecture Workspace Facilitators: Bob Robbins – Fred Hutchinson; Mike Ochs – FCCC	
12:30 pm – 1:30 pm	LUNCH	
1:30 pm – 2:15 pm	Vocabularies and Common Data Elements Workspace Facilitator: Mike Becich – University of Pittsburgh	

2:15 pm – 3:00 pm	Data Sharing and Intellectual Capital Working Group Facilitator: Mark Watson – Washington University
3:00 pm – 3:15 pm	BREAK
3:15 pm – 4:00 pm	Training Working Group Facilitator: Leslie Derr, NCI; Mark Adams, Booz Allen Hamilton
4:00 pm – 5:00 pm	DISCUSSION
5:00 pm – 5:15 pm	Wrap-up/Discussion of tomorrow's agenda items
5:15 pm	Bus leaves for Penn's View Hotel
6:30 pm	Reception and Dinner Ristorante Panorama – Penn's View Hotel
	Day 2: Tuesday, November 9, 2004
7:30 am – 8:00 am	Breakfast – Penn's View Hotel
8:00 am – 10:00 am	Open Discussion Cross cutting Issues Connections
10:00 am -10:15 am	BREAK
10:15 am – 12:00 pm	Preliminary work on overarching caBIG 3 yr and 5 yr goals
12:00 pm – 1:00 pm	LUNCH
1:00 pm – 3:00 pm	Assignments in preparation for March 15-16, 2005 face-to-face meeting

I. caBIG Goals

caBIG Strategic Goals

1 year (end of 2005)	3 year (Summer 2008)	5 year (Summer 2010)
 Develop first generation caBIG compliant tools and data sets and supporting data & architecture standards Establish a mechanism for engaging the private sector (pharma, SW Vendors, etc.), additional cancer research organizations, and other Federal agencies/divisions 	 caBIG will have sufficient mass of tools & data sets to have a positive impact on the cancer research community All Developer projects will be operating under Gold standard Adoption and use of caBIG interoperable tools and data sets within the caBIG Community Develop mechanisms for engaging and promoting the use of these technologies and data sets for not just research but to include clinical treatment activities 	Wide spread adoption, dissemination and use of caBIG interoperable tools and data sets within the Cancer Community at large including pharma, non-NCI Cancer Centers, etc.

Guiding Principles

- All software products must be optimized for change rather than trying to get it perfect the first time out. The ability to easily adapt our software products to future changes and external influences is essential.
- We must have a bias for action, and not get bogged down in deliberating everything to the nth detail
- Always retain a patient centric focus in conceptualizing and developing our solutions

II. WORKSPACE and WORKING GROUP OBJECTIVES

Clinical Trial Management Systems (CTMS)

SIG	1 year	3 year	5 year
Financial Billing	 While focusing on the Trial Financial Ledger, Drill down further into the Use Cases Create list of the data elements flowing between study calendar and the financial entity at the Cancer Center Create a glossary defining financial terms Describe interactions among components of the model Describe the functional requirements of each component Develop functional requirement and specification documents Develop Statement of Work (SOW) 	 Execute SOW: Develop risk management plans Load CDEs into ISO11179-compliant metadata repository Create a test approach for 'white box' testing Implement software features Execute testing approach Create User Documentation and installation guides Create training plan Deploy software to adopter sites and train sites 	
Laboratory Interfaces	Identify any needed CDISC modifications, and work with	caBIG lab module should be successfully transferring lab	caBIG lab module should be supplying de-identified lab

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Advance Event	 CDISC to make them Understand from vendors what is needed to collaborate on HL7 v3 interface for transmitting CT lab messages Formulate plan for cooperation with Adverse Event (AE) workspace on supplying key lab data for AE reporting 	data from at least 2 major clinical lab systems, allowing customizable filtering of data into the CTMS The Cancer Centers should have a means of automatic transfer of lab data into clinical trials databases without re- keying data	 data to the grid A toolkit should be available to facilitate development of an interface for data transfer from any clinical laboratory system
Adverse Event	Functional prototype for Modules 1-4 of AE Reporting system developed in caBIG compatible fashion and tested at adopter sites	All 12 modules operational and in place at Cancer Centers, with interfaces to legacy/vendor systems, and single rules engine for electronic internal routing and external reporting to various entities	
CDUS/CTMS Reporting	 Determine and thoroughly document CDUS/CTMS issues and needs via Use Cases Make incremental improvements to facilitate the reporting process with CTEP 	 Create caBIG-compatible software module to encompass current CDUS/CTME reporting requirements Work with AE SIG and City of Hope to establish the denominator for mining for previously undetected patterns within an AE Data Warehouse nationwide 	
caBIG Compatibility	Along with cross-cutting work spaces, deliver a refined caBIG compatibility guideline document that is proven to		

	facilitate analysis of current and emerging software systems in this regard • Determine methods for assessing whether suggestions for revision encompass needs and direction of the caBIG Architecture, Vocabulary and Strategic Planning groups • Summarization of the 'gap analysis' for guidelines against future needs
Structured Protocol Representation	Identify appropriate level of granularity for protocol
1. Cp. Coonmitton	representation
	Determine functional
	requirements for effective
	protocol representation
	Document requirements for CaRIG compatible tools for
	caBIG-compatible tools for effective protocol
	representation
	Develop a component of the
	specified module
	Plan and pilot deployment of
	the selected component
	Perform a detailed interpretability aggregament of
	interoperability assessment of the specified module, with
	particular attention to the
	selected component

Challenges

- For Adverse Event Reporting-
 - Open source software development
 - Soliciting and considering nationwide input
 - o Incorporating national/international standards
 - o Interfacing with in-house and vendor-based systems
 - o Including both Cancer Centers & agency perspectives
- Role of interactions with Oracle, other vendors
- Lab interfaces and DSIC coordination

Integrative Cancer Research (ICR)

1 year	3 year	5 year
The majority of projects will target Silver Level compliance, as outlined in the caBIG Compatibility Guidelines document. A few projects will be selected as reference implementations of the Grid architecture. All projects	 Bring more selected data sources and applications into Gold-level compliance, i.e. make them grid resources. Show how a federated set of resources that are syntactically and semantically 	Connect the ICR data and applications to resources in the Tissue Banks and Pathology Tools Workspace as well as the Clinical Trials Management System Workspace
will comply with the caBIG principles of open source, open access, open development and federation Challenges	compatible can be used to perform powerful analyses across the cancer research community.	

- "Tightening" the group how do projects "fit" together?
- "Cementing" the Developer-Adopter relationships (More use-cases need to be developed jointly)
- Increasing awareness crossing...
 - Workspaces (beyond liaisons)
 - SIGs (distinction?/commonality?)

- Uniform training
- Uniform adoption of caBIG Architecture, CDEs and practices
- Balancing Software Engineering with Science
 - Discussions
 - o Effort
- A "Vision" for the "Grid"

Remain cognizant of overlaps with CTMS and TBPT

SIG	Projects	Due Date
Data Analysis & Statistical Tools	Distance-Weighted Discrimination	 Q2 05: Beta version of caBIG-compatible DWD Q4 05: Final caBIG-compatible DWD
	Gene Pattern	Awaiting signing of BA at MIT
	Magellan	 Q2 05: Beta version of caBIO-interoperable Magellan Q3 05: Final version of caBIO-interoperable Magellan; Beta version of caArray-interoperable Magellan Q4 05: Final software
	VISDA	 Q2 05: Initial version of caBIG-VISDA Q4 05: Final version of caBIG-VISDA
Genome Annotation	Cancer Molecular Pages	Q3 05: Prototype version of Cancer Molecular Pages
	Function Express	Q3 05: Beta version of caBIG- compatible FunctionExpress Q4 05: Final version of caBIG- compatible FunctionExpress
	GoMiner	Q1 05: Preliminary caBIG-compliant GoMiner Q2 05: GoMiner with web-services API

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	НарМар	Early Q3 05: Initial mapping of HapMap and Promoter DB to augmented caBIO Late Q3 05: Final code available for loading HapMap and PromoterDB to augmented caBIO
	PIR	• Q2 05: PIR/Uniprot with middleware layer and web-services API
	SEED	Tasks and deliverables under negotiation with cancer center
Mircoarray Repositories	СаАттау	Developed by NCICB – pure adoption activity
	NCI-60 Data Sharing	 "Q1 05: NCI-60 Affymetrix data available in caArray Q2 05: NCI-60 drug screen data available in MAGE-ML tox format Q2 05: NCI-60 cDNA Array data availble in caArra; Q3 05: NCI-60 karyotyping data available as SKYWEB files NCI-60 aCGH data available in caArray"
	Zebrafish Mircroarray Data Sharing	Tasks and deliverables under negotiation with cancer center
Pathways	Cytoscape	 "Q3 05: View BioPAX data in cPath database through Cytoscape; Q4 05: Final caBIG-compliant Pathways system, including ability to import data from caArray"

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	QPACA	 "Early Q3 05: Beta version of QPACA integrated with Magellan Late Q3 05: Final version of QPACA integrated with Magellan Q4 05: QPACA interoperable with caBIG's pathways exchange standard "
	Reactome	Tasks and deliverables under negotiation with cancer center
Proteomics	LIMS	• Q4 05: Prototype Proteomics LIMS implemented
	Q5	Tasks and deliverables under negotiation with cancer center
	RProteomics	• "Q2 05: JavaR bridge
		 Q2 05: R routines Q3 05: Rproteomics grid services and client application"
Translational	TrAPSS	Q3 05: caBIG-compatible TraPSS implemented

Tissue Bank and Pathology Tools (TBPT)

1 year	3 year	5 year
• Complete first iteration of caTISSUE	Complete development cycle for	Execute test cases to demonstrate
Core / caTISSUE Lite and deploy to	caTISSUE Lite / caTISSUE Core	utility of grid-based query of specimen
adopter sites for testing.	Complete and deploy presentation /	data across institutions and consequent
Complete caTIES module and deploy	grid layer for caTISSUE	sharing of biospecimen resources for
to adopter sites for testing.	Further development of clinical	novel, multi-institutional studies.
 Complete first phase of caTISSUE 	annotation module.	

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clinical annotation module and deploy	Development of 'second party'
to adopter sites for testing.	modules
	o Billing / shipping
	o Request
	 •Experimental annotation
	Addition of other caTISSUE modules
	based on ranking in prioritization
	matrix.
	Explore the integration with other
	specimen bank systems (e.g. EDRN,
	cooperative group banks, CHTN) with
	caTISSUE.
Challenges	
Coordination with DSIC regarding HIP.	AA and IRB issues

Architecture (ARCH)

1 year	3 year	5 year
 Move interoperability framework into 	Develop a caCORE Developer's Tool	•
production projects	Kit	
 Release of Compatibility Document 		
Version 2.0 defining Gold		
Compatibility		
 Set target dates/milestones for 		
implementation of compatibility		
guidelines		
• Identifier subgroup to determine if		
LSID is sufficient to meet the needs of		
caBIG		

Workflow subgroup to evaluate	
workflow technologies and provide a	
white paper with recommendations for	
caBIG	
• Common Query language subgroup to	
recommend a common standardized	
query language across the grid	
 Design & Prototyping based on 	
Domain Workspace Use Cases	
• Identify particular Domain Workspace	
projects to use as vehicles for testing	
implementation strategies	
• Evaluate RDF and XML as the format	
for metadata representation at runtime	
• Interact closely with Arch and VCDE	
WS to address all issues being raised	
in the Workspaces	
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Challenges

- Messaging of Architecture decisions should be brought back to the domain workspaces
- Potential Bottleneck Will mentoring team be able to serve all Workspaces and meet SOW deliverable timelines

Vocabularies & Common Data Elements (VCDE)

1 year	3 year	5 year
• Plan for governance of new vocabulary	•	•
and common data element content		
• Establish VCDE Mentoring Teams for		
domain workspace pilot projects		

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•	Recommendation of external data			
	standards			
•	Convene regular Face to Face			
	Meetings of the VCDE Workspace and			
	joint meetings with the Architecture			
	Workspace to address caBIG cross			
	cutting issues			
•	Implement VCDE Workspace			
	developer projects			

Challenges

- Can 7 Centers support CDE Development for 29 projects? Is VCDE Workspace appropriately resourced?
- The need to identify adopters for the development project, specifically the projects where terminologies are being added to the core infrastructure. (mouse vocabs for example)
- How can the Centers be effectively supported in the use of the caDSR tools? Current training is "abstract". The Centers are asking for specific context based training
- Not enough emphasis on clinical and translation
- Potential Bottleneck Will mentoring team be able to serve all Workspaces and meet SOW deliverable timelines

Data Sharing and Intellectual Capital (DSIC)

SIGs/Focus Groups

- Regulatory Focus Team IRB, HIPAA, Privacy
- Proprietary ownership
 - o Experimental data
 - o Application/code /licensing
 - o Biospecimens & associated data

1 year	3 year	5 year
 Develop key data sharing associated use cases for each of the caBIG workspaces. Collect and compile existing "best practices" related to proprietary and regulatory issues for data sharing. Where no "best practices" exist, seek out needed expertise to formulate such policies for caBIG activities. Prepare position papers on assigned topics relevant to each team focus. 	 Publish white papers (consensus documents) based on summation of group's position papers. Continue interaction with Architecture WS to develop test documents Create caBIG compliant document templates that can be used by participating institutions to ensure compliances with data sharing polices 	 Serve as liaison between policy changes and system design Troubleshoot remaining institutional impediments to implementing data sharing across the grid

Challenges

- How do we get the IRBs to support any approach we develop?Need for discussions around security

Training

1 year	3 year	5 year
Develop caCORE training		
(EVS,caDSR, caBIO)	Provide an open source electronic	
• Develop Training for tools currently	learning environment	
being developed starting with	 Define Training Modalities 	
o CTMS - Structured	Produce "Gold" level training	
Protocol Development	materials	

 ICR – caARRAY TBPT - caTIES Develop templates & standards for caBIG Software Documentation Develop common standards for the evaluation of caBIG tools 	 Provide a common look and feel for caBIG training materials Provide end user & tech support 	

Challenges

- Provide training on a caCORE in a timely fashion
- Provide guidelines for software documentation
- We could get space at APIII & BRIITE to provide caBIG training sessions per Mike Becich & Bob Robbins

III. Key Discussion Points and Decisions

New Potential Workspaces/Group to engage:

- Population Sciences
- ONCHIT/EMR/CHI Federal/Regulatory
- Cancer Imaging Program
- ICBPO
- COOP, SPORES, CTEP
- Commercial Sector (Pharma, SW Vendors, etc.)
- Other Federal Agencies

Key Decisions:

- Meeting Notes
 - Need to distill the meeting minutes down to the most appropriate info; key decisions & action items
 - o Communication mechanisms must become crisper and more focused.
 - Post notes as a WIKI and searchable page
- Approaches to Decision Making Process
 - o Conduct quarterly teleconferences (audio and Centra) that are open to the entire caBIG community
 - Review all Workspace activities, goals, emerging issues and decisions
 - Identify and cement Workspace interfaces and interdependencies, e.g., security, business process, access management
 - Frame agenda so teleconference is no longer than 2 hours
 - Discuss what one group expects another to deliver
 - Review any changes to previously discussed plans

- o Create a 'technical' segment in What's Big This Week to summarize Workspace products and teleconference notes
 - Use as a notification process of key decisions being made
 - Summarize teleconference notes and important topics
 - Link to papers out for comment
 - Incorporate good search engine on website including date parameters
 - Provide Executive Summary with links to web site to detailed information
- Key Decision Making Process
 - Identify a topic Lead
 - Topic Lead convenes 1-2 brainstorming sessions
 - Publicize when sessions will be held (What's Big This Week; Listserv)
 - Develop proposal based on session feedback
 - Put proposal out for public comment across initiative for 1-2 wks
 - Topic Lead collects comments and makes final document
 - Publish final document
- Web site Changes
 - o Post SIG and subcommittee contact information on web site
 - o Post listing of projects under development and responsible Centers
 - o Incorporate 'technical' section of What's Big This Week

Big Questions:

- Do we have too many balls in the air? Should we be staging the activities over the next 3 years?
- What is our methodology for sequencing and managing our activities?
- What is the strategy for long-term user support? (similar to vendor support...goes beyond training) Should it be commercialized?
- Should some form of formal test bed be set or established to test and demonstrate architectural standards? (Should go back to Arch WS for discussion)
- How can the Centers be effectively supported in the use of the caDSR tools?? Current training is "abstract". The centers are asking for specific context based training

- How do we involve cooperative groups and other stakeholders?
- How do we envision commercial involvement?
- How do we maintain a patient centered focus/individualized medicine (including small oncology practices and nurses, EMR)
- Management of flexibility vs perfection tradeoff
- How should we be measuring the project's progress?
- How will be balance using resources for development vs support for existing products>

III. Next Steps

Action	Responsibility	Timeline
Provide feedback from SP SLWG Face-to-Face meeting to the	VCDE – Mike Becich	Complete by respective
Workspaces.	CTMS – Joyce Niland	Workspace's next
• Review 1, 3, and 5 year objectives for inconsistencies and confirm	TBPT – Mike Becich	teleconference
timeline for each objective.	DSIC – Mark Watson	
	ICR – Mike Ochs	
	ARCH – Bob Robbins	
	TRNG – Leslie Derr	
Notify Workspace Leads to include facilitators on next Workspace	Booz Allen	11/12/2004
teleconference		
• Compile and distribute (or post) face-to-face meeting notes, presentations and attendee list	Booz Allen	11/12/2004
Revise regular SP SLWG teleconference to a monthly cycle		
Revamp What's Big This Week to include 'technical' update which	Booz Allen	TBD
provides high level summary of scheduled meeting across caBIG.		
Lead development of position paper (700 words or less) for distribution to	Bob Beck	First Draft - 12/15/2004
Center Directors and publication in science journals. Paper should discuss		
caBIG goals and objectives		

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•	what caBIG is and is not				
•	where caBIG expects to be in one, three and five years				
•	where and why Centers and community might want to get involved				
•	Finalize caBIG strategic goals and Workspace objectives.	SP SLWG Members	12/6/2004		
•	Begin planning for March 15-16, 2005 SP SLWG Face-to-face meeting.		(Next SP SLWG		
	(Identify host site and agenda)		Teleconference)		
•	Review status of position paper				
•	Discus methodology for managing and sequencing our activities				